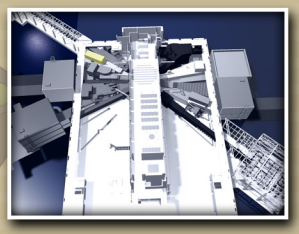
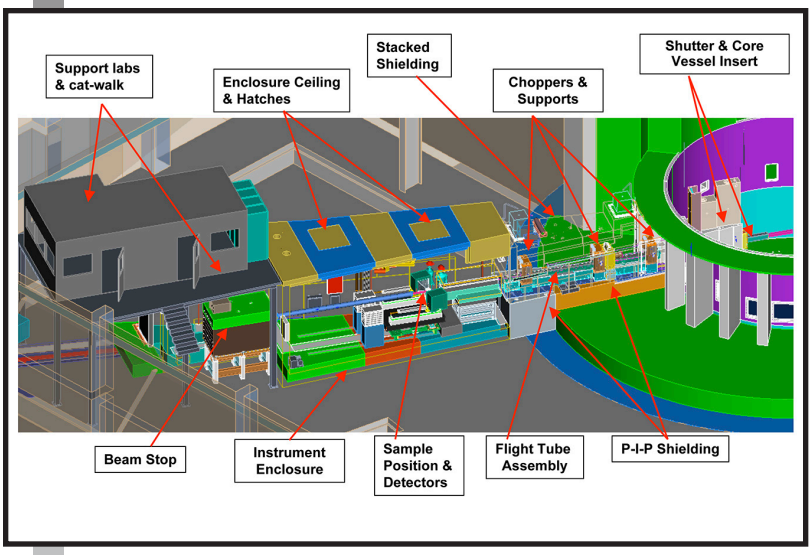
Instrument Fact Sheet

BEAM LINE 3



Spallation Neutrons and Pressure (SNAP)

The Spallation Neutrons and Pressure (SNAP) diffractometer will allow studies of a variety of powdered and single-crystal samples under extreme conditions of pressure and temperature. The increased neutron flux, coupled with large volume pressuring cells utilizing large synthetic single-crystal opposed anvils, will allow significant advances in the pressure range accessible to neutron diffraction. The pressure goal is 50-100 GPa on ~1 mm^3 sample on a routine basis. In addition, recent advances in next generation detectors will allow the inãdent beam focusing optics, pressure chamber, and detector array to be highly integrated, thus providing a highly flexible faãlity for materials studies under extreme conditions.



Specifications

Moderator	Decoupled poisoned Supercritical hydrogen
Beam line	3
Source-sample distance	15 m
Sample-detector distance	50 cm
Angular coverage	38-142° \ 98-150° horizontal ±34° vertical

Wavelength range (bandwidth)	
Frame 1	0.5 to 3.65 Å
Frame 2	3.7 to 6.5 Å

Pressure range	From ambient pressure to >50 GPa (500 kbar)
Focused beam size	From 1 cm to <100 microns

Recent Significant Events:

- Integrated design review: March 2006
- SNAP Instrument Development Team meeting: April 10-11, 2006

Future Events:

- Install detector frame with detectors: July 2007
- Receive delivery of pressure devices: January 2008
- Projected completion: Spring 2008
- Initial users begin: Summer 2008
- General users begin: Early 2009

For more information, contact the SNAP staff:

Instrument Sãentist: Chris Tulk, tulkca@ornl.gov, (865) 576.7028
Lead Engineer: Steve Chae, chaesm@ornl.gov, (865) 576.8180
Designer: Mark Phillips, phillipsm@ornl.gov, (865) 241.8107

SNS

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